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Introduction to Magnets Worksheet

Observations

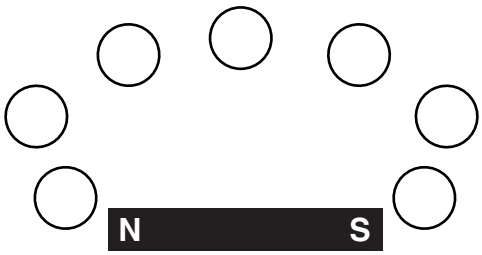
North pole/north pole interactions

South pole/south pole interactions

North pole/south pole interactions

Magnetic Fields

Fill in each circle to indicate the direction of the red tip of the compass needle as the compass is moved around the magnet.



Draw the magnetic field lines of a single permanent magnet.

Draw the magnetic field lines of the two magnets with north and south poles facing each other.

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Draw the magnetic field lines of the two magnets with either north or south poles facing each other.

Magnetic properties of different materials *(put a check in the appropriate column):*

	Magnetic	Nonmagnetic
Aluminum foil		
Iron nail		
Plastic straw		
Copper wire		

Post-Lab Questions

1. Describe what happens when two identical poles of the bar magnet face each other. What happens when two opposite poles face each other?

2. What polarity must the red tip of the compass needle be since it points toward the south pole of the magnet?

3. Draw a picture to show what would happen if a bar magnet was cut into two equal pieces. Label the north and south poles of each "new" magnet.

4. How does the direction of the compass needle change as the compass is moved along a magnetic field line?

5. How do the iron filings align themselves in relation to the magnetic field? Do the magnetic field lines ever cross?

6. Where is the magnetic field the strongest? How can you tell? Compare the strength of the magnetic field to the closeness of the magnetic field lines in that region.

7. Is a typical refrigerator door made of iron or aluminum? Explain.

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